

VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE SPECIFICATION:

Paragraph bridging page 1 and 2 has been replaced by the following paragraph:

--Movement of the material lead, on the one hand, to an increased strength, and, on the other hand, to a good bond between the first and second materials. It will be understood in this context that the first and second materials may also be selected identical except for the applied temperature and other [parameter] parameters. The invention permits manufacture of injection molded parts with completely new and novel properties.--;

Paragraph bridging pages 11 and 12 has been replaced by the following paragraph:

--The adjustment nozzle 20 has an inlet on the side of the injection molding device 22 as well as two outlets [~~30, 31 and 30', 31'~~] 25A, 26A and 25'A, 26'A on the mold side. Provided within the adjustment nozzle 20 are check valves 25, 26, and 25', 26' operating in opposite directions.--

Paragraphs on page 13, lines 8 to 16 have been replaced by the following paragraphs:

--The above-described nozzles 20 and [~~30~~] 31 ensure a particularly simple implementation of the above-described processes in view of their compact

structure and can easily be placed, instead of existing single-pass nozzles, upon injection molding devices, such as extruders or plunger-type injection molding devices, so that the latter can be retrofitted without any complex structural modifications for application of the process according to the invention.

Thus, the adjustment nozzles 20 and [30] 31 permit the use of different flow paths simply by controlling the injection molding device.--

IN THE CLAIMS:

Cancel claims 7 without prejudice to the reentry of the same subject matter at any later time.

Add the following claims:

15. (New) A process for injection molding of injection molded parts from plasticizeable material, comprising the steps of: injecting a first plasticized material from a first opening into an injection mold; said plasticized material is hardening at the margin of a mold cavity; subsequently, injecting from a second opening a second plasticized material which is different than the first material into the mold, moving only the second plasticized material during a solidification phase; and wherein said second plasticized material is moving in only one direction through an entry and an exit of the mold cavity.
16. (New) A process, for injection molding of injection molded parts from plasticizeable material, comprising the steps of placing a reinforcement fabric to be penetrated into the injection mold and introducing a liquid melt of a first plasticized material from a first extruder into the injection mold to penetrate the reinforcement fabric.
17. (New) Process according to claim 16, comprising the further steps of subsequently injecting into the injection mold a second plasticized material from a second extruder, and wherein only the second plasticized material is

so moved during a solidification phase as to overflow through a second opening.

18. (New) The process of claim 17, wherein the second plasticized material is permeated with fibers.
19. (New) The process of claim 17, wherein the second plasticized material is moved in a back and forth motion.
20. (New) The process of claim 17, wherein the second plasticized material is moved in a circular motion.
21. (New) A process for injection molding of injection molded parts from plasticizeable material, comprising the steps of injecting through a first opening into an injection mold a first plasticized material which hardens on the margin of the mold, and subsequently injecting into the injection mold a second plasticized material which differs from the first plasticized material, wherein the second plasticized material is injected from two locations, at least partially at a same time into the injection mold and wherein only the second plasticized material is so moved during a solidification phase as to overflow through a second opening.

Amend the following claims:

1. (Twice amended) A process for injection molding of injection molded parts.

from plasticizeable material, comprising the steps of injecting through a first [opening] extruder into an injection mold a first plasticized material which hardens on the margin of the mold, and subsequently injecting into the injection mold a second plasticized material which differs from the first plasticized material through a second extruder, wherein only the second plasticized material is so moved during a solidification phase as to overflow through a second opening.

6. (Amended) A process for injection molding of injection molded parts from plasticizeable material, comprising the steps of injecting through a first opening into an injection mold a first plasticized material which hardens on the margin of the mold, and subsequently injecting into the injection mold a second plasticized material which differs from the first plasticized material, wherein the second plasticized material is injected from two locations, at least partially at a same time into the injection mold and wherein only the second plasticized material is so moved during a solidification phase as to overflow through a second opening.

11. (Twice Amended) An adjustment nozzle [~~destined~~] for [use in] attachment to an injection molding device such as an extruders or a plunger-type injection molding device, comprising a body member having two interconnected outlets which are each provided with a check valve with the check valves operating in opposite directions.

13. (Amended) The combination according to claim [12] 11, wherein the adjustment nozzle has various channels and is movably guided in a block, so that one of the channels of the adjustment nozzle is in alignment with a channel in the block.
14. (Amended) The combination according to claim [12] 11, wherein the injection molding device has an injection mold which is tempered with a metal alloy of low melting point.

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IN THE DRAWING:

Amend FIGS. 1, 3 and 5 as per copy enclosed and indicated in red.

REMARKS

The last Office Action of June 5, 2002 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-14 are pending in the application.

It is noted that the drawings are objected to because they do not include the reference signs "13, 30' and 31". Furthermore, the drawings are objected to as failing to comply with 37 CFR 1.84 (p)(5) because reference character "30" has been used to designate both an outlet and a hot runner block, reference character "31" has been used to designate both an outlet and an adjustment nozzle. The Examiner stated he would not hold the need for corrections in the drawing in abeyance.

It is noted that the drawings are objected to because it is not clear which cross section of Figure 4 does Figure 5 represent.

Claims 11 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 5,074,772 (hereinafter "Gutjahr").

Claims 1-5 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,543,092 (hereinafter "Ibar") in view of U.S. Pat. No. 5,160,466 (hereinafter "Allan").

OBJECTION TO THE DRAWING

Applicant submits herewith amended Figs. 1, 3 and 5 to show with respect to Figure 1, the pump as reference numeral 13, with respect to Figure 3, the changed reference numerals 25A, 26A, 25'A, 25'A as indicated by the replacement paragraphs in the amendment to the specification. Furthermore, reference numeral 30 in connection with the adjustment nozzle has been corrected to reference numeral 31. The specification has been likewise amended to make it consistent with the amendments to the drawings. Figure 5 has been provided with reference numerals to indicate like structures in Figure 4. No new matter has been added.

Applicant has made amendments to the FIGS. 1, 3 and 5 in order to obviate the Examiner objections and rejections thereof. It is believed that by these amendments all reference numerals are clarified, as well as all structures in the Figures. Withdrawal of the objection to the drawing is thus respectfully requested.

**REJECTION OF CLAIM 11 UNDER 35 U.S.C. §102(b) AS BEING
ANTICIPATED BY GUTJAHR**

The rejection of claim 11 on the ground of the Gutjahr reference is respectfully traversed.

Claim 11 is directed to an adjustment nozzle for an injection molding machine such as an extruder or plunger-type injection molding machine. An adjustment nozzle is a term well known in the art of extrusion. The adjustment nozzle is used for adjusting flow when docking the injection extruder to the mold.

The Examiner has cited the Gutjahr reference as anticipating the invention of claim 11. The rejection is not understood in so far as the Gutjahr reference does not show the structure as claimed. Applicant has further clarified the structure of the adjustment nozzle as claimed to indicate its connection to an extruder.

The Examiner referred to reference numeral 11, which is a heating channel block. This structure bears no relationship as far as can be discerned to the structure claimed in claim 11. It is believed that claim 11 as presented patentably distinguishes over the prior art and thus be allowed. .

Withdrawal of the rejection of claim 11 under 35 U.S.C. §102(b) is thus respectfully requested.

REJECTION OF CLAIMS 1-5 AND 10 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER IBAR ('092) IN VIEW OF ALLAN ('466)

Applicant has amended claims 1, 6 and 11 to clarify what applicant considers to be the invention.

Claim 1 has been amended to clarify that the material flows from the extruder and also defined a second extruder.

The Examiner has rejected the original claims as unpatentable over Ibar in view of Allan. Ibar discloses that different materials can be placed sequentially into the mold. Likewise, the Allan reference teaches to feed different materials from one extruder. By the teachings as disclosed in Ibar and Allan, the first material would be pressed from the following second material through the second opening as in Allan and would thereby create movement in both materials. This is avoided through the pressing the material from different sources, so that the second material can also escape.

In the process as claimed material is placed by the two extruders into the mold from different paths, by which it is possible to move only the second material in the desired way and thereby avoiding unwanted mixing within the space for the second material.

Claim 2 has been rewritten as new independent claim 15. The claim as presented is believed to patentably distinguish over the cited prior art. Claim 15 follows the circulation as illustrated in Figure 1. Ibar and Allan do not disclose injecting a first plasticized material from a first opening into an injection mold; so that the plasticized material is hardening at the margin of a mold cavity; and subsequent injection from a second opening a second plasticized material which is different than the first material into the mold, so that only the second plasticized material is moved during a solidification phase; and so that the second plasticized material is moving in only one direction through an entry and an exit of the mold cavity.

Since claims 3-5 and 10 depend from claim 1 and therefore contain all the limitations thereof, these claims patentably distinguishes over the applied prior art in the same manner as claim 1.

Withdrawal of the rejection of claims 1-5 and 10 under 35 U.S.C. §103(a) is thus respectfully requested.

REJECTION OF CLAIMS 7-9 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER IBAR ('092) IN VIEW OF ALLAN ('466) AND FURTHER IN VIEW OF BERTSCHI.

In view of the Examiner's grounds for rejection applicant has cancelled claim 7 and introduced new claim 16 setting forth the invention of former claim 7.

It is believed that claim 16, as now on file is clearly distinguishable over the references for reason, which will be set forth hereinafter. The Examiner has postulated that Ibar and Allan do not teach an injection molding process including placing a enforcing sheet into the injection mold prior to injecting at least one layer of plastic material into said mold. Therefore the Examiner combined the Bertschi with Ibar and Allan to arrive at a reinforced mold product. Claim 16 sets forth that the reinforcement sheet is one that is to be penetrated to arrive at the useful plastic mold product. Bertschi discloses a "firm sheet 60", which is unlike that reinforcement as claimed. A firm sheet is not penetrable by the material melt as claimed. Thus, a combination of the teachings of Ibar and Allan and Bertschi will not render the claimed invention obvious.

Claims 8, 9 and 10, which depend from amended claim 1 and therefore contain all the limitations thereof, patentably distinguishes over the applied prior art in the same manner as claim 1.

As for the rejection of the retained dependent claims, these claims depend on claim 1, share its presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection of claims 7-9 under 35 U.S.C. §103(a) is thus respectfully requested.

REJECTION OF CLAIM 12 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER GUTJAHR ('772) IN VIEW OF IBAR ('092)

The Examiner has furthermore rejected claims 12, stating that Gutjahr teaches an injection nozzle mounted onto a stationary platen (mold). Claim 12 is dependent on claim 11 and thus incorporates the features of claim 11, so that the comments regarding claim 11 with respect to differentiating over the Gutjahr reference apply here as well.

Withdrawal of the rejection of claims 12 under 35 U.S.C. §103(a) is thus respectfully requested.

REJECTION OF CLAIMS 13 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER GUTJAHR ('772) IN VIEW OF BERTSCHI.

The Examiner has rejected claim 13 stating that Bertschi teaches an injection molding device which including an injection nozzle movably guided and having a channel in fluid communication with a melt flow manifold (40), so that Bertschi in conjunction with Gutjahr renders the claimed process obvious.

Bertschi teaches that the structure (40) is a manifold as set forth by the Examiner. However, the manifold 40 is described in Bertschi as a melt flow manifold used for heating the resin prior to entrance into nozzle 36. It is not seen from the Examiner's commentary how the nozzle 36 is movably guided therein so that one of the channels of the adjustment nozzle is in alignment with the manifold (40). The nozzle 36 is seen to dock with one nozzle orifice. No other channels are shown available in the manifold. Accordingly, a combination of the references would lack the adjustment nozzle having various channels and movably guided in the block for alignment with one of the channels in the block.

Withdrawal of the rejection of claims 13 under 35 U.S.C. §103(a) is thus respectfully requested.

REJECTION OF CLAIMS 14 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER GUTJAHR ('772) IN VIEW OF FURASAWA.

The Examiner has combined the references to allege that the claimed invention is obvious in view thereof.

Claim 14 which depends from amended claim 11 and therefore contains all the limitations thereof, patentably distinguishes over the applied prior art in the same manner as claim 11.

Withdrawal of the rejection of claims 14 under 35 U.S.C. §103(a) is thus respectfully requested.

CITED REFERENCES

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the newly submitted claims. It is thus felt that no specific discussion thereof is necessary.

CONCLUSION

Applicant believes that when the Examiner reconsiders the claims in the light of the above comments, he will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

None of the references discloses an injection molding method and device for molded parts from plasticizeable material wherein a second material is injected and moved in the injection mold in the manner as claimed herein.

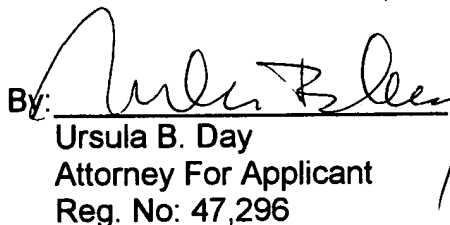
In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

The Commissioner is hereby authorized to charge fees, which may be required, or credit any overpayment to Deposit Account No. 06-0502.

Respectfully submitted,

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